



**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**  
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 02/233/EST	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/IT 03/00053	International filing date (day/month/year) 04.02.2003	Priority date (day/month/year) 06.12.2002
International Patent Classification (IPC) or both national classification and IPC B60S3/06		
Applicant FAVAGROSSA EDOARDO S.R.L. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
  - ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:
  - I ☒ Basis of the opinion
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

Date of submission of the demand  04.11.2003	Date of completion of this report  17.02.2004
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Durand-Smet, J  Telephone No. +49 89 2399-8881 

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/IT 03/00053**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*

**Description, Pages**

1-5, 7, 8 as originally filed  
6 received on 23.01.2004 with letter of 23.01.2004

**Claims, Numbers**

1-3 received on 23.01.2004 with letter of 23.01.2004

**Drawings, Sheets**

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-3
	No: Claims	
Inventive step (IS)	Yes: Claims	1-3
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-3
	No: Claims	

2. Citations and explanations

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/IT03/00053

1. It is already known from **US-A-3 139 641** (Figures 6 and 13) to provide a washing brush for washing brush assemblies to be applied to automatic systems for washing motor vehicles in general, comprising a cylindric body (26) having a central longitudinal axis and a side cylindric outer surface. Furthermore, on said cylindric outer surface are defined a plurality of separated adjoining diagonal seats (42, 44), each for receiving fixedly therein a cleaning band element (52) and said separated seats (42, 44) are inclined with respect to said central longitudinal axis.
2. Vis-à-vis this prior art washing brush, the subject-matter of claim 1 differs by the fact that the separated adjoining diagonal seats have a length smaller than the diameter of said cylindric body and with said cylindric body in a vertical and non driven condition thereof, each said band element will fall so as to overlap on an adjoining like band element.

Such a construction allows a washing brush to have a reduced number of cleaning band elements to be connected to the brush central body and to have them properly oriented thereby reducing the volume of the washing brush,

3. As there is no suggestion to a skilled person among the other cited prior art documents to provide such a construction in combination with the features known from **US-A-3 139 641** and referred to in paragraph 1. above, the subject-matter of claim 1 seems to be novel and inventive under the terms of article 33 (1) to (3) PCT.
4. Further embodiments of the invention are referred to in the dependent claims 2 and 3. Therefore, they are also novel and inventive.

Jérôme DURAND-SMET

parallel to the axis.

According to a preferred inclination, the band element has in average a 25% larger length.

In this connection it should be pointed out  
5 that the inclination of the band elements can be further changed, to also provide further larger lengths.

Accordingly, the amount of material being the same, the number of the band elements will be  
10 smaller, since each band element will have a width larger than the widths of the band elements arranged parallel to the axis, and accordingly perpendicularly to the motor vehicle to be washed motion direction.

Accordingly, the reduction of the number of  
15 the band elements will reduce the labor necessary for making the single components on the washing brush and for fixing them, independently from the method for carrying out the fixing operation.

Moreover, the slanted or diagonal  
20 arrangement allows the orienting of the band elements and related end strips to be offset, notwithstanding a radial effect provided by the centrifugal force.

Actually, in automatic motor vehicle washing systems, the maximum speed does not exceed  
25 110 rpm's and the natural trend of the band elements to fall in a natural direction due to their oblique positions, allows said band elements to "close" possible spaces or gaps, in an optimum manner.

Moreover, the colored spiral obtained by  
30 adjoining different colors on the band elements would be perfectly arranged with respect to its epicycloidal pattern.

**CLAIMS**

1. A washing brush for washing brush assemblies to be applied to automatic systems for washing motor vehicles in general, comprising a cylindric body on the side outer surface thereof are provided a plurality of band elements defining the cleaning elements of said washing brush, characterized in that said band elements extend on the side surface of said cylindric body along direction which are inclined with respect to the axial direction.

2. A washing brush, according to the preceding claim, characterized in that said band elements comprise a plurality of longitudinal slits, defining a plurality of strips forming said cleaning elements.

3. A washing brush, according to the preceding claims, characterized in that said band elements, arranged with a slanted arrangement, have a width larger than the width of corresponding band elements arranged parallel to the axis of said cylindric body.

4. A washing brush, according to one or more of the preceding claims, characterized in that said slanted band elements have a width larger than that of the band elements arranged parallel to the axis of the cylindric body.

5. A washing brush, according to one or more of the preceding claims, characterized in that said strips, end, under of the effect of said slanted band elements, to assume an overlapping arrangement,

thereby reducing the packaging size thereof.

6. A washing brush, according to one or more of the preceding claims, characterized in that the color spiral formed by adjoining several colors  
5 on said band elements has a perfect epicycloidal pattern.

7. A washing brush to be applied to washing brush assemblies of automatic systems for washing motor vehicles in general, according to one or more  
10 of the preceding claims, and substantially as broadly disclosed and illustrated and for the intended aim and objects.